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New species of Epermeniidae from Africa with a distributional checklist of the family for the Afrotropical Region (Lepidoptera: Epermenioidea)

With 11 figures and 1 table

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Abstract

The material collected in Asante Sana contains three species, one of them, *Epermenia lutulenta,* is a new species. Additionally are described as new: *Epermenia aureomaculata*; *Epermenia nigrodentata*; *Ochromolopis cederbergensis* and *Ochromolopis lobata.* New country records are established for *Phaulernis montuosa* GAEDIKE, 2013 (Uganda) and for *Ochromolopis namibica* GAEDIKE, 2004 (South Africa).

Nomenclatural acts

Epermenia (Calotripis) lutulenta spec. nov. – urn:lsid:zoobank.org:act:CA04B2AF-063B-4E8B-B701-596C8C8E8109
Epermenia (Calotripis) aureomaculata spec. nov. – urn:lsid:zoobank.org:act:288CF759-4A9C-4A89-B567-0B50074DCBBB
Epermenia (Cataplectica) nigrodentata spec. nov. – urn:lsid:zoobank.org:act:9AB1556A-3CD3-4234-B292-24F8C4B8688E
Ochromolopis cederbergensis spec. nov. – urn:lsid:zoobank.org:act:8B6A4361-35D9-46FD-9323-8298C7829F7D
Ochromolopis lobata spec. nov. – urn:lsid:zoobank.org:act:0E3EA723-7DAD-4828-879D-A0290541253B

Key words

Epermeniidae, South Africa, Uganda, new species

Zusammenfassung

Das Material, gesammelt in Asante Sana, enthielt drei Arten, eine von ihnen, *Epermenia lutulenta*, ist eine neue Art. Zusätzlich als neu beschrieben werden *Epermenia aureomaculata*; *Epermenia nigrodentata*; *Ochromolopis cederbergensis* und *Ochromolopis lobata.* Neue Ländernachweise wurden für *Phaulernis montuosa* GAEDIKE, 2013 (Uganda) und für *Ochromolopis namibica* GAEDIKE, 2004 (RSA) festgestellt.

Introduction

In recent years new material of Epermeniidae was collected during field trips to Southern Africa and Uganda by staff members of the Museum für Naturkunde, Berlin. Intensive faunistic research was performed in the Eastern Cape (RSA) on the privately owned Game Farm" Asante Sana". The investigations in this area became known as the Asante Sana Project. Details of the project and first results were published by MEY & KRÜGER (2019).

The author was asked to work up the collected material of this family. It has been my pleasure to study a total of 24 specimens including three species from Asante Sana. The examination resulted in the detection of five unknown species and two new country records.

The knowledge of the distribution of the family in the Afrotropis was poor in the past but has increased in the last years (GAEDIKE, 2004a; 2004b; 2013; 2020). Currently, 43 species in seven genera are known from Africa south of the Sahara. The species are summarized in a checklist, which provides an overview on the distribution of species in the various African countries. The list may be helpful in future studies on the distribution and taxonomy of the family in Africa.

Abbreviations

SDEI Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany

MfN Museum für Naturkunde, Leibniz-Institut für Evolutions- und Biodiversitätsforschung, Berlin, Germany

Systematics

Phaulernis montuosa GAEDIKE, 2013

Uganda, 1 ♂, Kibale National Park, Biol. Field Station 19.-24.xi.2014, leg. W. Mey; MfN: **first record for the country**. Hitherto known from Kenya, Tanzania and Malawi.

Epermenia (*Calotripis*) *lutulenta* spec. nov.

urn:lsid:zoobank.org:act:CA04B2AF-063B-4E8B-B701-596C8C8E8109

(Figs 1; 6)

Holotype: ♂, "RSA, Graaf-Reinet [district], Asante Sana, 22.-26.xi.2013, leg. W. Mey;" "Gen.präp. [genitalia slide] Gaedike Nr. 8580;" "Holotypus ♂, *Epermenia lutulenta* sp. n., det. R. Gaedike 2016;" MfN; Paratypus: ♂, "RSA, Eastern Cape, Asante Sana, 28.ii.-5.iii.2014, leg. W. MEY;" "Gen.präp. [genitalia slide] Gaedike Nr. 8581;" "Paratypus ♂, *Epermenia lutulenta* sp. n., det. R. Gaedike 2016;" MfN.

Derivatio nominis: the name refers to the colouration of the wings (Latin: lutulentus = claylike).

Diagnosis (Fig. 1): wingspan 14 mm (n = 2); head, thorax and tegulae light brown; labial palpi directed upwards, on outside with darker scales; scape of antennae light brown, with pecten, flagellum dark grey; forewings somewhat rubbed, darker brown as the thorax, clay-coloured; on dorsum before and after 1/2 indications of tufts of raised scales; at the end of cell a dot of black scales, fringe with sickle-like line of darker scales; hindwings shiny whitish.

Male genitalia (Fig. 6): uncus thin, long, with pointed tip; tegumen without stronger sclerotized edges; valvae elongated, ampulla slightly curved, with pointed tip, border to valvae strong sclerotized, reaching into cucullus; cucullus somewhat longer than ampulla, with rounded apex; sacculus ending in tooth-like sclerotization below border of ampulla; phallus a little longer than valvae, straight, cornutus nearly half lenght of phallus, parallel-sided, laterally with narrow fold, apically rounded.
Female genitalia: unknown.

Remarks: superficially similar to *E. bicornis* GAEDIKE, 2004 by the colouration of the forewings, but the wingspan is clearly larger and at dorsum of forewing are only two tufts of raised scales. Male genitalia characterized by the long narrow uncus and the large cornutus, a comparison is impossible, as from *bicornis* is known only a female.

Epermenia (*Calotripis*) *aureomaculata* spec. nov.

urn:lsid:zoobank.org:act:288CF759-4A9C-4A89-B567-0B50074DCBBB

(Figs 2; 7)

Holotype: ♂, "Uganda, Kibale National Park, Biol. Field Station, 19.-24.xi.2014 LF[lux], leg. W. Mey;" "Gen. präp. [genitalia slide] Gaedike Nr. 8577;" "Holotypus ♂, *Epermenia aureomaculata* sp. n., det. R. Gaedike 2016;" MfN; Paratypes: 2 ♂♂, same locality and collection date; "Paratypus ♂, *Epermenia aureomaculata* sp. n., det. R. Gaedike 2016;" MfN; SDEI.

Derivatio nominis: the name refers to the colouration of the forewings.

Diagnosis (Fig. 2): wingspan 8-9 mm (n = 3); entire body dark brown, shiny; antennae without pecten, flagellum somewhat ringed, covered with short ciliae; forewings on dorsum before and after 1/2 with a tuft of raised scales, with a golden brown pattern: in the middle along cell at 1/2 a band, extended to dorsum above tufts, forming a reverse U; a nearly round patch at base of cell and an oval

patch at 3/4; the area between the patches and apically the oval patch with silver-coloured scales; fringe dark brown, apically light grey; hindwings dark brown.

Male genitalia (Fig. 7): uncus narrow, curved, with pointed tip; tegumen without stronger sclerotized edges; valvae as long as uncus-tegumen complex, ampulla slightly curved to pointed tip, border to valvae strongly sclerotized, cucullus hardly longer than ampulla; sacculus ending in a thin, more strongly sclerotized pointed tip; phallus shorter than valvae, angled at 1/2, with a thin slightly hook-shaped cornutus.
Female genitalia: unknown.

Remarks: the new species is characterized by the golden brown pattern on the forewings, which make it distinguishable from the other members of the genus.

Epermenia (*Cataplectica*) *nigrodentata* spec. nov.

urn:lsid:zoobank.org:act:9AB1556A-3CD3-4234-B292-24F8C4B8688E

(Figs 3; 8)

Holotype: ♂, „Eastern Cape – Candeboo Graaff-Reinet District, Farm Onbedacht, 32°10'59"S, 24°02'45"E, Summit fynbos Alt. 1618 m, 27.02.2003, [leg.] D. M. Kroon;" "Gen.präp. [genitalia slide] Gaedike Nr. 9263;" "Holotypus ♂, *Epermenia (Cataplectica) nigrodentata* sp. n., det. R. Gaedike 2018;" MfN.

Derivatio nominis: the name refers to the colouration of the tuft of raised scales on the dorsum of the forewings.

Diagnosis (Fig. 3): wingspan 11 mm (n = 1); head pale light brown, tips of scales whitish; antennae dark grey, with pecten, flagellum somewhat ringed; labial palpi curved upwards, outside dark grey, inside whitish; thorax light brown, tegulae dark grey-brown; forewings on dorsum at 1/2 with a broad black tuft of raised scales, a second minute tuft at 2/3; above first tuft and apically the second tuft each a brown coloured band-shaped area, directed oblique to a dark brown area from cell to costa; at the end of cell a black dot, connected with dorsum by dark brown area reaching apex; basal fourth dark grey-brown, wing before the brown band-shaped area above first tuft lighter, more or less pale-coloured; an equally pale patch present between the tufts and a patch above the black dot ; hindwings light grey, shiny.

Male genitalia (Fig. 8): uncus curved, with rounded tip; tegumen with more strongly sclerotized apical edge; valvae a little longer than uncus-tegumen complex, ampulla narrow, curved to pointed tip, border to valvae strongly sclerotized, sacculus ending in an upwards-directed hook; phallus longer than valvae, slightly curved, cornutus nearly as long as phallus, with two pointed tips.
Female genitalia: unknown.

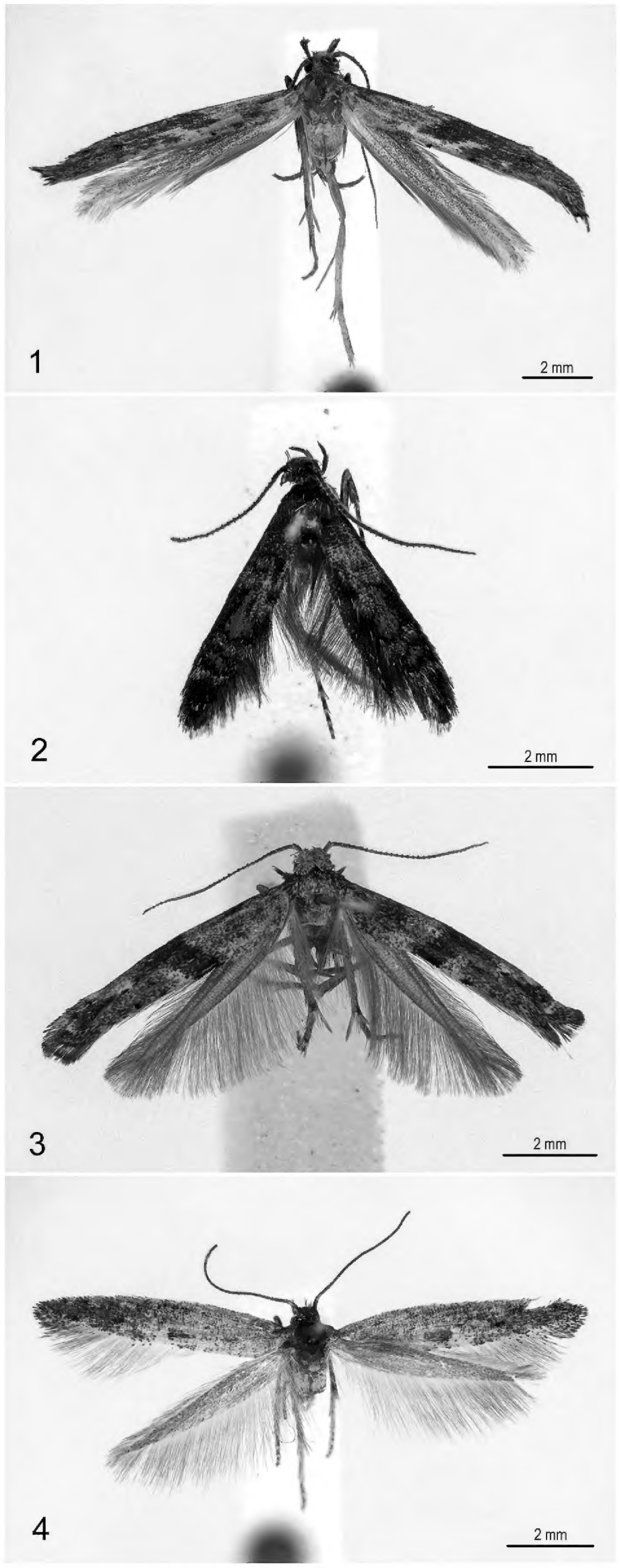


Fig. 1: *Epermenia lutulenta* spec. nov.; **Fig. 2**: *Epermenia aureomaculata* spec. nov.; **Fig. 3**: *Epermenia nigrodentata* spec. nov.; **Fig. 4**: *Ochromolopis cederbergensis* spec. nov.

Remarks: the new species is externally somewhat similar to *E. triacuta* Gaedike, 2013, but characterized by the broad black tuft of raised scales on dorsum of forewing. Clear differences are seen in the genitalia structure: the long narrow uncus, characteristic shape of the sacculus

(upwards-directed hook at the end) and the long cornutus with two pointed tips make the new species surely distinguishable.

Ochromolopis namibica GAEDIKE, 2004b

(Fig. 9)

RSA: 1 ♂, Eastern Cape, Asante Sana, Zuurkloof, 1300 m, 28.ii.-5.iii.2014, leg. W. Mey; MfN; 1 ♂, RSA, Eastern Cape, Asante Sana, 28.ii.-5.iii.2014, leg. W. Mey; SDEI; 1 ♂, RSA, Eastern Cape, Graaff-Reinet, Asante Sana, Waterkloof, Turm, 1310 m, 22.-26.xi.2013, leg. W. Mey; MfN: **first record for the country**. Hitherto known only from Namibia.
Fig. 9 shows some variability in the shape of the uncus in comparison to the holotype.

Ochromolopis cederbergensis spec. nov.

urn:lsid:zoobank.org:act:8B6A4361-35D9-46FD-9323-8298C7829F7D
(Figs 4; 10)

Holotype: ♂, "RSA, Cederberg, Algeria, Jamaika-Farm, 1.-3.3.2005, leg. W. Mey, LF [lux];" "Gen.präp. [genitalia slide] Gaedike Nr. 7027;" "Holotypus ♂, *Ochromolopis cederbergensis* sp. n., det. R. Gaedike 2016;" MfN.

Derivatio nominis: the name refers to the type locality of the new species.

Diagnosis (Fig. 4): wingspan 10 mm ($n = 1$); head, thorax and tegulae somewhat rubbed off, labial palpi light grey, on outside mixed with some darker scales, second segment apically on underside with longer scales; antennae also grey too, scape on underside lighter; forewings with grey ground colour, with scattered darker scales, along cell to apex with a narrow stripe of light brown scales, at 1/2 and at 2/3 extended down to dorsum; in the middle, a minute black dot at 3/4, fringe basally around apex and termen with dark brown scales; the basal half of wing somewhat rubbed off, no clear pattern visible; hindwings shiny light grey.

Male genitalia (Fig. 10): uncus long, narrow, apically U-shaped, wrench-like; tegumen along basal and proximal edges more strongly sclerotized; valvae as long as uncus-tegumen complex, costal arm nearly 3/4 of the lenght of ventral part of valvae, with rounded apex, closely connected to ventral part, the latter more or less parallel-sided, dorsal margin in the first half with wave-like emargination, basal margin subapically narrower to rounded apex, from base to apex in the mid a longitudinal fold, apically with short pointed tooth; phallus nearly as long as valvae, basally rounded, more strongly sclerotized, narrower to pointed apex, versica with minute sclerotizations.
Female genitalia: unknown.

Remarks: as the holotype is somewhat rubbed off, the new species can be separated from the other members of the genus in the male genitalia by the shape of uncus and the closely connected costal arm of the valvae to the ventral part.

Ochromolopis lobata spec. nov.

urn:lsid:zoobank.org:act:0E3EA723-7DAD-4828-879D-A0290541253B
(Figs 5; 11)

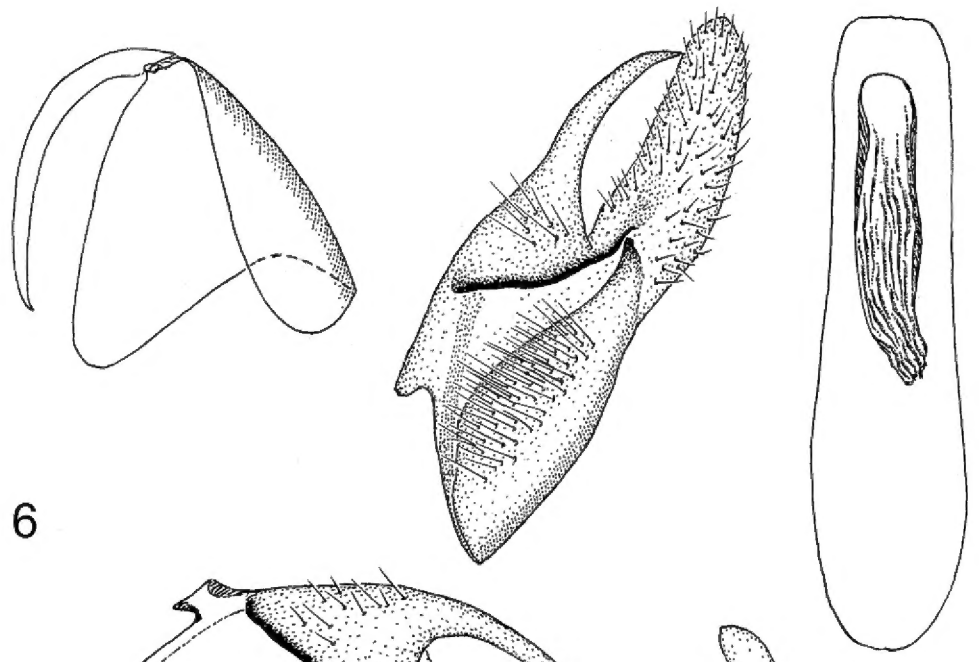
Holotype: ♂, "RSA, West. Cape N. Montagu, Burger-Pass, 27.xi.2015, 560 m, leg. W. Mey;" Holotypus ♂, *Ochromolopis lobata* sp. n., det. R. Gaedike 2016;" MfN; Paratypus: ♂, same locality and collection date; "Gen.präp. [genitalia slide] Gaedike Nr. 8574;" "Paratypus ♂, *Ochromolopis lobata* sp. n., det. R. Gaedike 2016;" MfN.

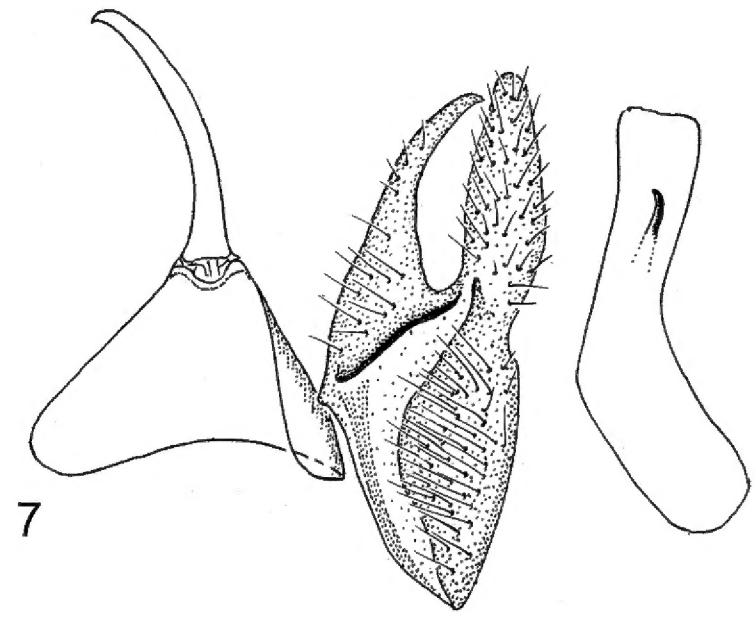
Derivatio nominis: the name refers to the shape of the uncus.

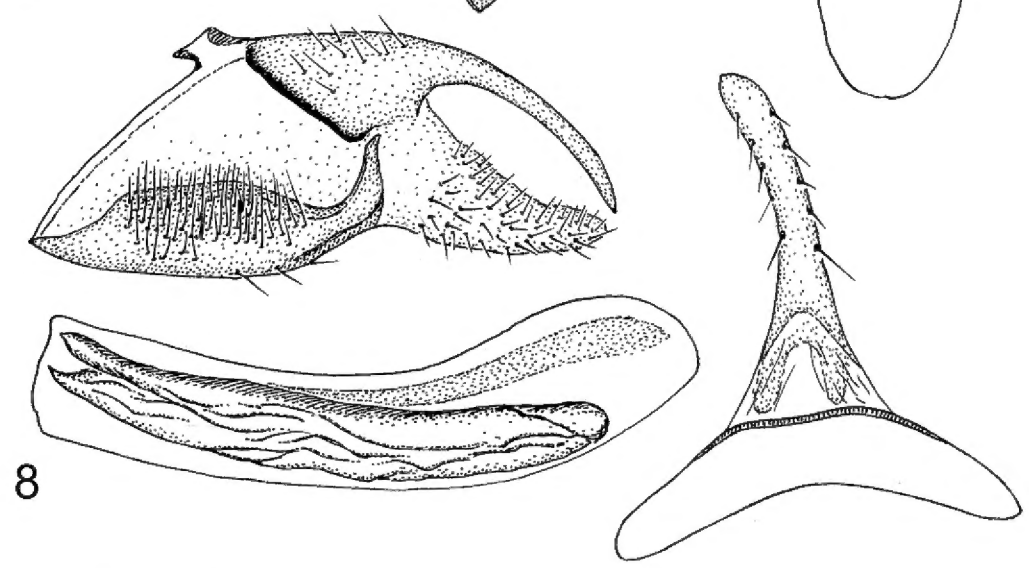
Diagnosis (Fig. 5): wingspan 12-13 mm ($n = 2$); scales on head, thorax and tegulae bi-coloured, basally dark grey, apically light grey; labial palpi curved upwards; scape of antennae with pecten; forewings narrow, with same ground colour as the entire body; on dorsum with tufts of raised black scales at 1/3 and 1/2, an indication of a third tuft near base; in the mid, along cell to apex, a light brown pattern: above the tuft at 1/3 as a square patch, above the tuft at 1/2 as a thin stripe, above the indication of the third tuft near base as a minute dot, in the apical quarter as a thin dash; in the mid at 3/4 apically the light brown strip a minute black dot; the apical half of wing overlaid with darker scales, along termen forming a darker stripe; hindwings light grey, shiny.

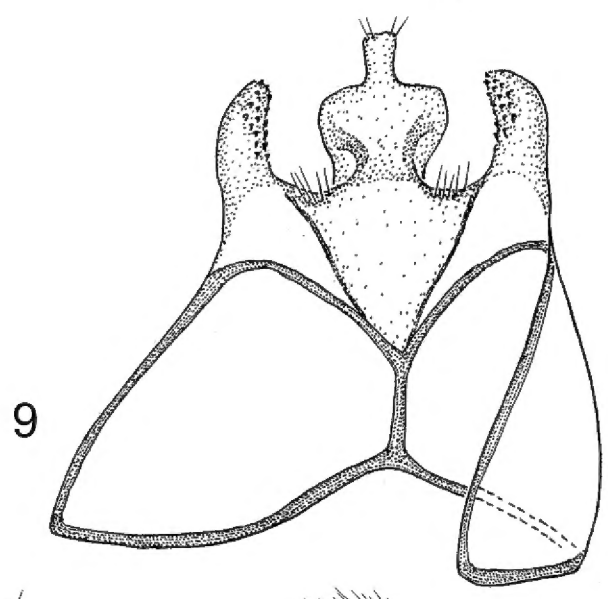
Fig. 5: *Ochromolopis lobata* spec. nov.

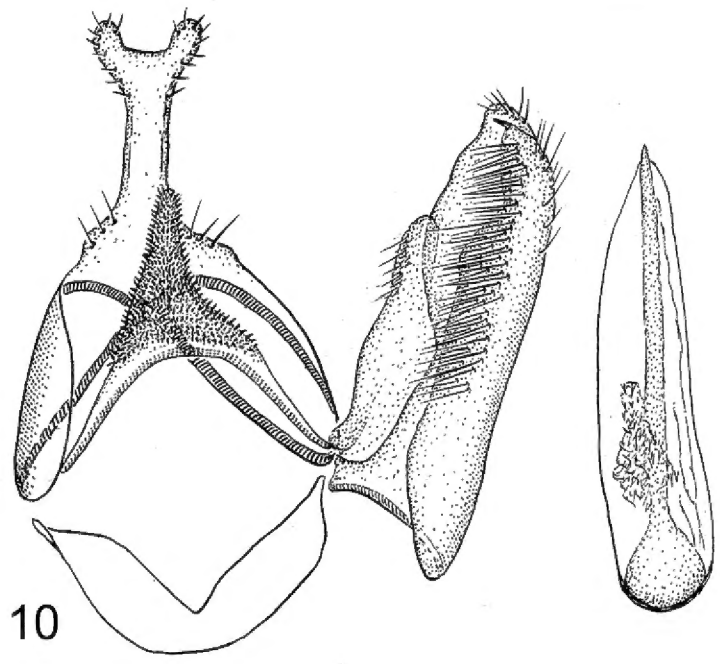
Male genitalia (Fig. 11): uncus straight, parallel-sided, apically truncated, basally with two lobes nearly half as long as uncus; tegumen with more strongly sclerotized margin; valvae as long as uncus-tegumen complex, costal arm half the length of ventral part of valvae, narrow, with pointed process dorsally at 1/2, apically rounded; ventral part broadest basally, thereafter more

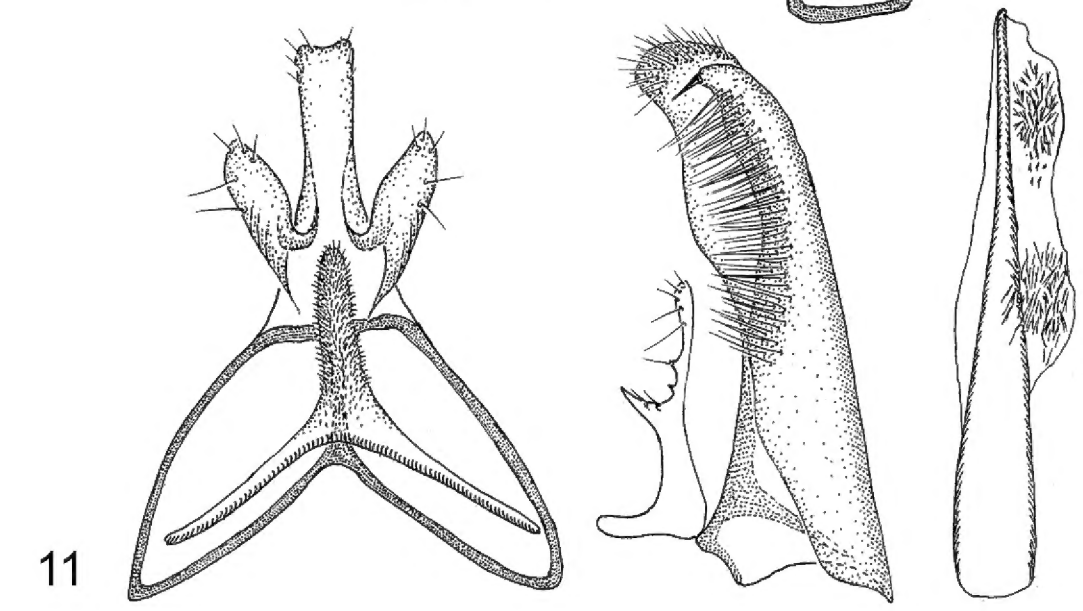












Drawings, male genitalia: **Fig. 6**: *Epermenia lutulenta* spec. nov.; **Fig. 7**: *Epermenia aureomaculata* spec. nov.; **Fig. 8**: *Epermenia nigrodentata* spec. nov.; **Fig. 9**: *Ochromolopis namibica*, variability of uncus; **Fig. 10**: *Ochromolopis cederbergensis* spec. nov.; **Fig. 11**: *Ochromolopis lobata* spec. nov.

or less parallel-sided, with rounded apex, the longitudinal fold with wave-like dorsal margin, apically ending in a long pointed strong sclerotized tooth, directed upwards; phallus as long as valvae, from base to pointed apex narrower, vesica with numerous small sclerotizations.

Female genitalia: unknown.

Remarks: The new species is distinguishable externally from the other members of the genus by the narrow forewings with light brown pattern. The male genitalia with the long lobes basally on the uncus clearly make the new species distinguishable from the other members of the genus.

Gnathifera punctata Gaedike, 2013

RSA: 1 ♀, Eastern Cape, Asante Sana, light trap, 11.-13. xi.2012, leg. W. Mey; ZMHB; 1 ♀, RSA, Northern Cape, Lelyfontein, Esel-Kop, 27.x.2008, leg. Ebert, Mey & Kühne; MfN; 4 ♀ ♀, RSA, Northern Cape, Kamieskroon, Windhoek, 29.i.2012, leg. W. Mey; MfN; SDEI.

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for linguistic corrections and the referees for their important comments.

The list below illustrates the present knowledge of the distribution of the family in the Afrotropis. No records are known from the West African region (from Senegal to Gabun), from the Kongo region are known only four species, no records are known from Angola too. In the result of various projects in the southern part of the Afrotropis (Kenya, Uganda, Tanzania, Malawi, South Africa, Namibia) were detected a lot of new species, a gap with only one species is Zimbabwe, no records are known from Sambia and Botswana.
The order of the taxa in the list reflects the view of the author concerning the phylogenetic relationship inside the family.

References

Gaedike, R. 2004a: New genera and species of epermeniid moths from the Afrotropical Region (Lepidoptera: Epermeniidae). – Annals of the Transvaal Museum **41**: 41–59, 66 Figs.

Gaedike, R. 2004b: Epermeniidae (Lepidoptera, Epermenioidea). – Esperiana Memoir **1**: 199–202, 7 Figs, col. pl. 6: Figs 4–6.

Gaedike, R. 2013: New or poorly known Epermeniidae of the Afrotropis (Lepidoptera, Epermenioidea). – Contributions to Entomology **63** (1): 149–168, 105 Figs.

Gaedike, R. 2020: New taxa and new records of Afrotropical Epermeniidae (Lepidoptera) with a distributional checklist. – Contributions to Entomology **70** (2): 359–364, 14 Figs.

Mey, W. & Krüger, M. 2019 (eds.): The Lepidoptera fauna of a crater valley in the Great Escarpment of South Africa: The Asante Sana Project. – Esperiana Memoir **8**: 550 pp.

Distribution list of the Epermeniidae of the Afrotropis

Taxa	Distribution
Africepermenia tanzanica Gaedike, 2004	Tanzania; Kenya; Zimbabwe
Mesepermenia malgachica Gaedike, 2004	Madagascar
Inuncus juratae Gaedike, 2013	Kenya; Tanzania
Phaulernis montuosa Gaedike, 2013	Kenya; Tanzania; Zimbabwe; Malawi; **Uganda**
P. africana Gaedike, 2013	Kenya; Tanzania
Epermenia (Calotripis) minuta Gaedike, 2004	Madagascar
E. (C.) criticodes Meyrick, 1913	South Africa; Kenya
E. (C.) griveaudi Gaedike, 2004	Madagascar
E. (C.) conioptila Meyrick, 1921	Zimbabwe; Kenya
E. (C.) maculata Gaedike, 2004	Madagascar
E. (C.) meyi Gaedike, 2004	Malawi; Kenya; Ethiopia
E. (C.) brevilineolata Gaedike, 2004	Madagascar
E. (C.) malawica Gaedike, 2004	Malawi; Kenya
E. (C.) larseni Gaedike, 2020	Zimbabwe
E. (C.) paramalawica Gaedike, 2013	Kenya
E. (C.) karurucola Gaedike, 2013	Kenya
E. (C.) formosa Gaedike, 2013	Kenya
E. (C.) dallastai Gaedike, 2013	Kenya
E. (C.) costomaculata Gaedike, 2013	Kenya
E. (C.) turicola Gaedike, 2013	Kenya; Tanzania
E. (C.) hamata Gaedike, 2013	South Africa
E. (C.) aarviki Gaedike, 2013	Tanzania; Kenya

Taxa	Distribution
E. (C.) ruwenzorica Gaedike, 2013	DR Kongo
E. (C.) bulbosa Gaedike, 2004	South Africa; Kenya
E. (C.) bicornis Gaedike, 2004	South Africa
***E. (C.) lutulenta* spec. nov.**	**South Africa**
***E. (C.) aureomaculata* spec. nov.**	**Uganda**
E. (C.) oriplanta Bradley, 1965	Uganda
E. (C.) philoritis (Bradley, 1965)	Uganda
E. (C.) epirrhicna Meyrick, 1938	DR Kongo
E. (C.) tenuipennella Gaedike, 2013	Kenya
E. (C.) agassizi Gaedike, 2013	Kenya
E. (C.) albofasciata Gaedike, 2020	Zimbabwe
E. (Cataplectica) mineti Gaedike, 2004	Madagascar
E. (C.) kenyacola Gaedike, 2013	Kenya; Malawi; Ht. Katanga
E. (C.) triacuta Gaedike, 2013	Namibia; Kenya
E. (C.) iniquella (Wocke, 1867) = *ochrodesma* Meyrick, 1913	South Africa; Kenya
***E. (C.) nigrodentata* spec. nov.**	**South Africa**
Gnathifera proserga (Meyrick, 1913)	South Africa
G. punctata Gaedike, 2013	South Africa
Ochromolopis xeropa (Meyrick, 1909) = *praefumata* Meyrick, 1911	South Africa
O. pallida Gaedike, 2004	Madagascar
O. ithycentra (Meyrick, 1926)	South Africa
O. namibica Gaedike, 2004	Namibia, **South Africa**
***O. lobata* spec. nov.**	**South Africa**
***O. cederbergensis* spec. nov.**	**South Africa**
O. sagittella Gaedike, 2013	Kenya
O. cana Gaedike, 2013	South Africa